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THE SIGNIFICANCE OF PRECORDIAL PAIN*

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The precordium is that portion of the anterior chest wall overlying the heart. To the physician this is an area corresponding roughly to the space transversely between the right parasternal and the left mid-clavicular lines, and vertically between the second interspace and the costal margin. To the patient, the precordium is anywhere over the anterior chest wall, but usually the heart is believed to lie under the region of the left nipple. Pains, therefore, arising anywhere near the region where the heart is supposed to be, either gives rise to much more anxiety and concern than the symptoms warrant, or are regarded as of no significance, and are self-treated as gas or indigestion.

The reason is obvious. Severe pain causing extreme anxiety may be of little significance as far as life or death are concerned, while mild pain or pressure may cause so little concern that the patient is diffident to mention it and considers the pain of no importance. Yet the latter group may be afflicted with the disease which the first type of patient so greatly fears—namely, coronary disease.

I make no apology for discussing this hackneyed subject, because I believe it is not generally recognized that the various causes of precordial pain can be determined by a carefully taken history and physical examination, and that the first type of apprehensive patient can be reassured without the aid of the cardiologist, his electrocardiogram and roentgenogram; while the second type should have the help of the cardiologist in determining the seriousness of the pathology, as well as the supporting help which can be given him in outlining the treatment.

Most of the patients whom I see with pain in the front of the chest are sent because it is believed that the pains are of cardiac origin. Of the last two hundred cases with precordial pain, forty-two per cent were of non-cardiac origin.

Slide I—200 patients with precordial pain:
104 patients with cardiac pathology, 52%
84 patients with non-cardiac pathology, ... 42%
12 patients with abdominal pathology, ... 6%

Slide II—104 patients with cardiac pathology: 52%

	Patients	
(a) Angina pectoris	20	10%
(b) Coronary sclerosis	12	6%
(c) Acute coronary occlusion	41	20.5%
(d) Rheumatic Ht. Dis., with mitral disease and auricular fibrillation	20	10%
(e) Rheumatic Ht. Dis., with aortic insufficiency	2	1%
(f) Syphilitic Aortitis, with aortic insufficiency	2	1%
(g) Aneurysm	2	1%
(h) Dissecting Aneurysm	1	0.5%
(i) Pericarditis, Acute (1 from tumor)	2	1%
(j) Calcified Pericarditis	2	1%
	104	52%

Slide III—84 non-cardiac patients: (42%)

(a) Intercostal neuralgia	60	30%
(b) N. C. A.	16	8%
(c) Mastitis	2	1%
(d) Herpes zoster	2	1%
(e) Ca. of breast	1	0.5%
(f) Broken rib	3	1.5%
	84	42%

Slide IV—12 patients having Abdominal Lesions, with precordial pain: (6%)

(a) Peptic ulcer	2	1%
(b) Gall bladder disease	9	4.5%
(c) Esophageal diverticulum	1	0.5%
	12	6%

Thus we see that only approximately one-half of the patients had definite heart pathology, while more than 40 per cent could be reassured honestly that no organic heart pathology existed.

Slide II. Of the 52 per cent with organic heart-disease, I can safely state that a fairly accurate diagnosis could be made on the history and physical examination alone. For example, take the 20 patients with angina pec-

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toris, in whom the diagnosis depends entirely upon the patient's history of "pain on effort," relieved by rest and nitroglycerin, and a negative physical examination. The pain may be characterized as a fulness, a burning, a griping, a bulging, a heaviness, or severe ache in the substernal region, without radiation or radiating in most cases down the left arm, or into the shoulder, under the sternocleidomastoid muscle, or back of the ear and into the jaw. This sensation comes on usually —and I dare say always—on exertion and usually after meals, and is relieved by rest and nitroglycerin. The patient never uses the terms sharp, stabbing or shooting pains. These terms will be used later in the description of parietal pain. Angina pectoris is most frequently present in the 5th decade of life, and much more frequent in men than women, unless there is hypertension. No electrocardiogram or x-ray is needed to make this diagnosis. Listen to the patient's story, observe his response to exercise or excitement, as well as the effect of a test dose of nitroglycerin, and then to prove your diagnosis you may have a cardiograph and roentgenogram made, which, although negative, are of inestimable value in making your prognosis.

Of the largest group of patients in this series of organic heart cases—namely, those with acute coronary occlusion (41 patients, or 20.5%), the diagnosis again can be made on the basis of the clinical picture, which picture we have come to recognize since Herrick's classical paper of 1912, the substernal discomfort coming on while the patient is at rest or after severe exercise, causing him to be restless, the discomfort radiating as an ache into one or both arms, or not radiating at all; the grayish pallor; the cyanosis; the breathlessness; the change in the rhythm of the pulse; later the fall in the blood pressure; the leucocytosis; the fever; and, after twenty-four hours, the confirmation of the clinical picture by the electrocardiogram, present a symptom-complex which we must keep constantly uppermost in our minds when discussing this problem of precordial pain.

In the cases of coronary sclerosis with pain, it is difficult to say where pure angina pectoris ends and this group begins; or to tell when the individual case in this group will have a sudden coronary occlusion and then fall into the category just described. However, in any discussion of precordial pain there is this group of older patients with coronary sclerosis resulting in gradual coronary artery narrowing with increasing degrees of myocardial anoxemia (formerly called chronic myocarditis) which, if recognized and properly regulated, can go on for years in spite of their substernal fulness, dyspnea and precordial discomfort.

The rheumatic heart group gives a different picture. The subgroup of patients with rheumatic mitral disease, with or without fibrillation, complains very little until pressure symptoms manifest themselves as a fulness or vague pain in the region of the third and fourth left interspace. At times there is a tenderness over this area, due to the pressure from the enlarged pulmonary conus of the right ventricle and left auricle. The subgroup of rheumatic aortic insufficiency, although rare, may give a typical picture of angina pectoris, due to lack of filling of the coronary arteries during diastole. However, the age of the patient, the history of the rheumatic state, and the finding of the aortic insufficiency murmur, quickly differentiate these two conditions.

Syphilitic aortitis gives no precordial pain until aneurysm or aortic insufficiency develop. If the aneurysm is saccular, then definite localized pain and tenderness are present overlying the position of the aneurysm. If the aneurysm is cylindrical, then an upper substernal burning or sense of fulness is complained of, but no localized tenderness is found. In syphilitic aortitis with aortic insufficiency, again we may find a symptom-complex suggesting angina pectoris, due to the lack of filling of the coronary arteries during diastole. Here again the age of the patient the history and the typical murmur aid in the diagnosis.

Dissecting aneurysm is rare, but must be kept in mind. The clinical picture is much like that of an acute coronary occlusion, except that the substernal pain is overshadowed by the very severe pain in the interscapular region and evidence of occult bleeding. Pericarditis may give rise to acute substernal and

precordial pain at its onset, no matter what the etiologic factor—rheumatic, tuberculous or cardiac infarction but with the pouring out of an exudate the precordial pain disappears and only when the effusion is sufficiently great to cause a cardiac tamponade does precordial pain reappear, this time as a sense of fulness in the upper substernal area or over the 3rd and 4th left interspaces. In calcified pericarditis this same sense of pressure may appear (in our 12 cases of calcified pericarditis only 2 made this complaint).

Now—the second great group of patients in our series (84, or 42%) composed of the non-cardiac patients with precordial pain. This group comprises those young and middle-aged patients who hurry to you because of sharp shooting, stabbing pain overlying the region where they suppose the heart is to be found. I have become greatly interested in this class, because many of them have been to several physicians who have told them there is nothing wrong, and advised them to go home and forget their complaint. People resent being told there is nothing wrong when they are suffering pain, and they doubt the doctor because he has not explained the cause of their pain. True, he has found nothing wrong with the heart, but what is the cause of the pain if it is not the heart?

Slide III. Eighty-four patients, 42% of the series, and of these, 60 patients, or 30%, had precordial pain due to intercostal neuralgia. Intercostal neuralgia is not serious, but it is serious to the patient who is worried about his chest-pain.

The diagnosis of intercostal neuralgia is easily established by eliciting the history and by the physical examination. The patient describes his pain as an ache, with exacerbations of shooting, stabbing, knifelike pain. The pain is not relieved by rest, and nitroglycerin has no effect. The pain may be made worse by certain positions, such as when sewing or ironing. On physical examination a normal heart and lungs may be found. When the patient is asked to localize the pain, he usually refers it to the left submammary region or to a definite interspace and on examination of this area you find there is *parietal tenderness.* It is most important to differentiate between pain and parietal tenderness. Pain comprises a large group of precordial sensations. Parietal tenderness is the sensation elicited by touching or pinching the area. The causes of intercostal neuralgia and its parietal tenderness are irritants to the posterior thoracic nerve-roots. These irritants may be postural, arthritic, nutritional or toxic from focal infections. The most common postural conditions are the round shouldered or kyphotic individual, the "C" type or "S" type of scoliosis, and the occasional patient with long unilateral cervical rib. Thoracic spondylitis is commonly an early manifestation of arthritis giving rise to intercostal neuralgia before other joints are involved. Vitamin B deficiency permits mild exposure to cause severe intercostal neuralgia, while dental caries are the most frequent toxic cause of intercostal neuralgia.

Neurocirculatory asthenia is always a dangerous diagnosis to make. I always fear it is my ignorance, or my inability to find a cause for the patient's complaint of pain that permits me to make this diagnosis; but if you have a nervous individual who subconsciously is seeking an escape mechanism and find neither organic heart disease nor parietal tenderness, this diagnosis of necessity is forced upon you.

Herpes zoster. It seems almost incredible that this diagnosis could be confused with heart disease, yet on two occasions severe precordial pain proved to be of Herpes zoster origin by finding a normal heart, marked parietal tenderness, and in twenty-four hours the typical vesicles.

The diagnosis of mastitis and carcinoma of the breast are tentatively made, if the chest is exposed and the patient's history elicited. Confusing a broken rib with heart-disease may sound ridiculous, but it is not always easy, nor is the physician always to be blamed if he misses the diagnosis of heart-disease in the presence of broken ribs but he should be censured if he permits a patient to be worried about precordial pain because of an undiagnosed broken rib.

For example, a chief of obstetrics at one of the Philadelphia city hospitals received a blow over the left precordium, breaking the fourth rib anteriorly, and died shortly afterwards from a coronary infarction resulting

from the blow. Another 54-year-old lady fell and broke the 5th and 6th left ribs anteriorly, and three days later collapsed with extreme heart failure due to a coronary occlusion, and after ten weeks recovered. In these two cases the primary diagnosis was fractured ribs, the coronary disease being diagnosed later. In the third case, a young woman pulled down a garage door and experienced a sharp pain in her left lower chest anteriorly. She reported to her physician who listened through her dress and told her the heart was normal and that she would be all right. After ten painful days and sleepless nights she insisted she had heart disease, because she was becoming heart conscious. Upon refer, we found a normal heart, normal electrocardiogram and x-ray, and upon strapping the broken rib the pain was relieved and the patient was willing to believe she had no organic heart-disease.

Slide IV—12 patients with abdominal lesions producing precordial pain. Here again a carefully taken history will be the first clue in finding the cause of the pain. Then by exclusion coronary pain and parietal pain are ruled out. Gall-bladder disease can cause referred pain into the substernal region, and when the differential diagnosis between acute biliary disease and acute coronary occlusion is not clear, the best policy is to wait for twenty-four hours before scheduling operation, and by that time the symptom-complex will be more clear, the electrocardiogram will be diagnostic, and if the pain is due to gall-bladder disease the patient will be in better shape to stand the operation because of glucose, calcium and vitamin administration. The differential diagnosis between a perforated peptic ulcer and coronary disease may also be difficult. Here the history of preceding indigestion, the finding of a board-like rigidity, the absence of peristalsis, and the absence of the ashen gray color and dyspnea of an acute coronary occlusion are the best and only helpful clinical criteria.

It is impossible to discuss treatment here. My whole aim in presenting this paper is to draw your attention to the different causes of precordial sensations, to draw the distinction between visceral pain and parietal tenderness, and that, as Professors Carnett and Bates have shown the difference between *parietal* pain in the lower right quadrant and appendicitis, so we as cardiologists and general practitioners must reassure our patients that all pain in the anterior chest is not of heart origin. The patient with organic heart-disease will appreciate your thoroughness, and will follow your schedule more faithfully; while the patient with parietal pain and tenderness will be eternally grateful for your reassurance; if we approach precordial pain in this way.

DISCUSSION

DR. OLIN S. ALLEN (Wilmington): I thank Dr. Griffith for coming down and presenting the paper. He covered the subject so well that I don't think he left very much for the rest of us to talk about.

I would just like to ask him, however, if he has noticed any difference in or made any study of the size of the heart in these cases? In other words, can you take the size of the heart and associate it with the amount of pain?

It is very hard to differentiate between the pain of gallbladder disease and heart pain, especially in precoronary thrombosis, if the patient has had an acute coronary thrombosis and then has an attack of gallstones. I want to thank you very much for covering the subject so nicely.

DR. LEWIS B. FLINN (Wilmington): Mr. President, and Members of the Society, Dr. Griffith: I enjoyed this discussion very much indeed. I think I could say that an internist, not particularly interested in cardiac pathology or in cardiology, is presented with a group of patients continually, by far more than 42 per cent of whom complain of precordial pain of non-cardiac origin. I have no statistics to prove this, but it is certainly my impression and my guess.

Some twenty years ago the favorite diagnosis was that of streptococcus viridans endocarditis. Perhaps ten years ago it was acute coronary occlusion. I am not so sure now that that same diagnosis would be made today. However, there are many times when it is very hard to be too definite. I will not attempt to go into all the details and the various causes of precordial pain which have been so completely and consistently recounted to us by Dr. Griffith. There are one or two

phases of the subject I would like to touch on briefly. For instance, I remember not so long ago being called to see a woman of about forty-five who had, fifteen years before, had a thyroidectomy for hyperthyroidism, and was known to have had a rheumatic heart. She was a rather nervous individual but not one to be hysterical. I was called in a hurry because she was having precordial pain and a very rapid pulse.

When I sat down by the bed I heard a peculiar beating sound. She had a tachycardia of about 160. She was very apprehensive and frightened. I could hear this sound, not with a stethoscope, not over the heart, but over the left hypochondrium, which was markedly distended with gas or air, and after palpating it a few seconds, the spasm in the colon or in the pylorus, which has been backing the air up underneath the diaphragm, pressing on the heart, relaxed; the distention disappeared, the sound disappeared, and the patient said, "I feel all right." Occasions like that come up which are interesting.

Neurocirculatory asthenia is perhaps the group where most of these cases are dumped perhaps when no one knows where else to put them, but certainly there is a precordial distress experienced by many patients who are very nervous and apprehensive; and one of their characteristic complaints is shortness of breath, which when the history is gone into carefully is found not to be a true dyspnea, it is a difficulty in taking a long breath.

I haven't seen a fractured rib being mistaken for coronary occlusion or precipitating it, but I have been presented in the last year or two with one or two patients complaining of precordial pain, one after all cardiac pathology could be ruled out, as far as we could do it. Going back again into the history it was found that a few weeks before there had been a forgotten contusion of ribs on that side. One favorite way of securing that sort of thing is by reaching to the back seat from the front seat of an automobile and causing pressure on the ribs, which when s e v e r e enough remains sore and painful for weeks.

One other group of cases which sometimes confuse the issue are cases of spontaneous pneumothorax. We have seen a number in the last several years, and sometimes the pain and discomfort have been placed by the patient over the precordium if there was a pneumothorax occurring on that side. I have not had occasion to see a patient with all the symptoms of mediastinal emphysema, which Louis Hamman has described, where there may be confusion. In one or two of his reported cases of coronary occlusion, in addition to the pain the patient had a most peculiar beating sound on examination with the stethoscope.

In closing, let me mention intercostal neuralgia, which certainly is one of the main causes for these non-cardiac precordial pains. Intercostal neuralgia, I understand, merely means pain of the intercostal nerves, of whatever source. It may be from contusion; perhaps it may be temporarily from chilling; from weather; it may be from pathology of the spine; or from spinal arthritis. One particularly interesting phase of it has come to my attention, partly because in some of these patients in which I haven't been able to determine the cause of their pain, I have called in the help of an individual whom I consider a fairly good orthopedist, who happens to be my brother, and he has called attention to a certain thing. He may say a word about it. I wish he would. He was one of the first—I don't know that he was the first—in 1934 to call attention to cervical arthritis as a cause of precordial pain; that through the pressure on the nerve roots through the brachial plexus there was frequently pain in the precordium and down the left arm, sometimes acutely and sometimes of a chronic nature, and by treatment of certain procedures the pain can almost always be relieved.

A year or so ago I was called in consultation outside of Wilmington to see a patient, a man of about forty, who had some sort of acute precordial attack previously, eight or ten months ago, and he had some change in the electrocardiogram. The tentative diagnosis at that time had been a coronary occlusion. On this occasion he was much, much sicker, had much more pain, but on going over him a large part of his pain was in the left upper arm, and this time it had gone still further and had involved the nerves so that he had definite paresthesia and definite motor weakness in the left arm. There was no in-

dication of any coronary involvement and subsequent cardiograms were negative. I suppose that he fell into that anterior-scalenus syndrome about which the orthopedists talk to us.

So all of these factors, as Dr. Griffith has so ably pointed out, enter into the picture of non-cardiac precordial pain. It is important first, for your own safety as well as for the patient's safety, to make sure that the pain is non-cardiac. But then your trouble just starts. Sometimes if it is cardiac it would be a whole lot easier to take care of patients, but when it is non-cardiac there may be all these various things to find out and to correct.

DR. IRVIN M. FLINN, JR. (Wilmington): I think he has done a fairly good job of constructing. There is only one thing I would like to add about this group of cases that my brother talks about. He speaks most especially about cervical arthritis in the lower cervical vertebrae. If you will recall your anatomy picture books, the cervical cutaneous nerves do go down over the front of the chest, certainly nearly as far down as the nipple. In the case of acute arthritis of the neck, where there is nerve pressure, naturally the pain can be referred down into that region.

So far as treatment in those particular cases is concerned, it is relatively simple, but is somewhat prolonged in that the first necessity is in various methods of physical therapy in order to loosen up the cervical vertebrae that have become more or less spasticly held in place by the arthritis, and then later on postural exercises to insure that the same habit will not again be produced.

In the anterior-scalenus group—it is a fond name—but that particular group is closely related to the cervical rib. What it amounts to is that with the cervical rib we get a classical picture of the anterior-scalenus syndrome, whereas without the cervical rib we get the simple syndrome which is not quite typical. There again the control of the affair is mostly with physical therapy. I think there is a definite distinction between the two groups, in that with the cervical arthritis the pain is mostly referred over the chest—over the upper precordium, I should say—but with the anterior-scalenus most of the pain is referred down the arm.

DR. GRIFFITH: Dr. Allen brought up the question of the relation of the size of the heart to the degree of cardiac pain. Before answering this question, may I state that all of our patients herein reported had x-ray measurements as well as percussion measurements of the heart. There is no direct relationship between the size of the heart and the degree of substernal pain or cardiac origin. However, the larger a heart has become hypertrophied, the more pathology we believe there is in the coronary arteries, and therefore the more likelihood of pain; also, the larger a heart, the less sufficient are the coronary arteries to oxygenate this large myocardium and therefore more likely to cause pain. Size of the heart alone will not cause substernal pain. Pathological changes within the coronary blood-vessels determine the amount of pain.

I am very glad Dr. Flynn brought up the question of collapse of the lung. In idiopathic collapse of the lung, there is precordial pain; and it is many times confused with heart pain, particularly if the collapse is on the left side. With pneumothorax, patients become heart-conscious because of the shift of the mediastinum. In artificial collapse of the lung for the cure of pulmonary tuberculosis, there is frequent cardiac pain and heart-consciousness; and when these patients are referred by the chest surgeon, we usually find normal hearts and a little less filling of the chest cavity with air will relieve this plan.

Mediastinal emphysems is a rare condition, but it does account for severe substernal pain. I have seen only one such case, and was unable to diagnose it until the air began to appear in the tissue planes of the neck.

May I thank you for the pleasure of meeting with the Delaware State Medical Society.

COMPOUND PRESENTATION Complicated by SACCULATION OF LOWER UTERINE SEGMENT

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This presentation deals with the interesting obstetrical rarity of a combined compound presentation and saccular dilatation of the lower uterine segment occurring simultaneously in the same patient. The occurrence of a compound presentation of the head with lower extremity is in itself rare. Kietz reports 23 cases of the foot prolapsing in head presentations in 7,555 deliveries, approximately three cases per thousand (1). In other clinics large series of deliveries show still smaller percentages of such occurrences (2).

TABLE I

Author	No. of Births	No. in Which One or Both Lower Extremities Accompanied Head Presentations	Percentages
Kietz	2,891	4	0.14
Kuhn	27,193	25	0.09
v. Franque'	247,570	9	0.003
Kaser	9,012	17	0.18

Similarly, the incidence of sac-like dilatation of the lower uterine segment into the vaginal vault during labor appears to be even more rare. It appears that no series of cases has ever been reported; reference only to an occasional case is to be found.

Furthermore, a sacculation of the lower uterine segment occurring in combination with a compound presentation of the foot and head is so rare that no mention whatever is given to it in the literature, as far as we could determine.

Mrs. E. J., 27 years old, gravida IX, white, native American, housewife, a patient at the prenatal clinic of the Wilmington General Hospital. First pregnancy eleven years ago, resulted in miscarriage at five months; cause unknown. Her second pregnancy ten years ago, full term, was delivered by Scanzoni maneuver for persistent occiput posterior position. Her next three pregnancies were uneventful with spontaneous deliveries of living babies at full term. Her sixth pregnancy, spontaneous delivery, full term, stillbirth. Last two pregnancies, spontaneous deliveries; the fetuses were slightly premature.

The patient was first seen in the clinic May 13, 1940, complaining of amenorrhea, urinary frequency, and headaches. Last menstrual period: December 6, 1939. Diagnosis of pregnancy was made, with estimated date of confinement as September 13, 1940. Physical examination at that time was essentially negative. She had a markedly relaxed perineum and pelvic floor. The pelvic measurements were within normal limits. August 10, 1940, she had a premature rupture of the membranes and when seen had no uterine contractions.

Abdominally, the fundal grip presented a hard, regular mass which was thought to be the head. Fetal heart sounds were found to be in the midline just above the umbilicus. On rectal examination a soft regular mass was felt about 4 cm. above the level of the ischial spines. A small amount of seepage from the vaginal canal was noted. Several hours later the patient began having mild uterine contractions at irregular intervals. This continued until the following evening, when the pains became more regular and the contractions more severe, so that a small amount of sedation became necessary. On rectal examination a soft regular mass was palpated. This mass had no fetal characteristics. No cervical rim could be palpated. On vaginal examination a soft resilient mass, regular in outline and resembling a rubber balloon filled with water, was felt in midpelvis. No fetal parts nor cervix was palpated. This mass seemed to be continuous with the posterior vaginal wall, obliterating the posterior fornix. Similarly, the lateral borders of the mass were found to be continuous with the lateral walls of the vagina. Anteriorly, very high up above the superior margin of the symphysis, the cervical opening was found, which was estimated to be three

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fingers dilated. The presenting part within the cervix was footling. A diagnosis of footling presentation complicated by sacculation of the lower uterine segment and prolapse into the vaginal vault was made. Patient was given sedation and intravenous fluids and allowed to continue labor for several hours. Examination now revealed a fully dilated cervix with the footling presentation, which remained at the pelvic inlet. The lower uterine segment, however, had continued its descent into the vagina.

Under anesthesia and further investigation it was found that in addition to the foot the vertex was attempting to push its way into the pelvic inlet. It now became evident that we were dealing with a compound presentation at the pelvic inlet, complicated by a sacculation of the posterior portion of the lower uterine segment descended into the vaginal vault. This lower uterine segment was distended with amniotic fluid. With the internal hand the head was pushed out of the inlet. That position was maintained with the external hand. The foot was grasped and brought down. At the same time the lower uterine segment was pushed up by well-padded sponge sticks. Delivery was then completed by breech extraction following this modified podalic version. The baby was small, weighed four pounds and twelve ounces, was alive and in good condition. The mother had an uneventful post-partum course. She was seen six weeks later for post-partum examination. Marked relaxation of the vaginal vault and pelvic floor was present, but no sacculation which might suggest an enterocele (3). Uterus was completely involuted.

DISCUSSION:

COMPOUND PRESENTATION

As we pointed out at the beginning, compound presentation is in itself a rare complication. Interesting cases have been reported and contrasting methods of management have been employed, depending upon the degree of engagement, impaction, cervical dilatation, and the condition of the patient, as well as other factors that may be present. Wong (4) puts it very succinctly: "Compound presentation or a complex presentation is not only considered as a rare obstetrical complication, but is also looked upon as a serious one, as a rule, coming without warning, and rendering the labor difficult. It not infrequently results in danger to the lives of both mother and baby." Four cases of compound presentation occurring in ten years were reported from the clinic of Peiping Union Medical College. The presentations were vertex, complicated by hands and feet and umbilical cords. Three were delivered by version and extraction and one by abdominal section, with a fetal mortality of 75 per cent.

Heckscher (5) reports a case of prolapse of both feet and one hand with vertex presentation, successfully delivered by Caesarian section. Oppenheimer (6) reports a similar case, delivered successfully by version and extraction. Benda (2) reports a case of vertex and right footling, delivered spontaneously. Rowland (7) reports a case of head, foot and hand delivered by embryotomy, with death of the mother also. Fervers (8) reports a case of footling and vertex presentation impacted in the pelvis; craniotomy was done, with maternal death.

SACCULATION OF THE LOWER UTERINE SEGMENT

Tresidder (9) reports a case of lower uterine sacculation in a Hindu woman, gravida X, who had had a previous ventral fixation of the uterus. During labor an anterior sacculation of the lower uterine segment was discovered. Delivery was made by caesarean section; mother and child both survived.

COMPOUND PRESENTATION COMBINED WITH SACCULATION OF THE LOWER UTERINE SEGMENT

We could find no mention in the literature of a compound presentation complicated by sacculation of the lower uterine segment.

CONCLUSION:

Report and description is made of a rare combination of obstetrical complications occurring at the same time in one patient, which terminated with a live mother and child. We feel that the primary presentation in this instance began as a footling. The dilatation of the lower uterine segment formed the sacculation and received the major portion of the amniotic fluid, so that as a result contraction and retraction of the fundus was not

interfered with, thus forcing the sacculation into the birth canal. As a result of this, the uterine cavity became much shorter so that it caused a flexing of the fetus, forcing the head down to the pelvic brim despite the presence of the foot. Had we not interfered, the probabilities are that the sacculation would have continued to descend into the birth canal and eventually rupture and that the vertex and footling would have become impacted at the pelvic inlet.

In conclusion, this report deals with the very rare complication of sacculated lower uterine segment combined with a compound presentation. This combination was recognized before impaction occurred. The mechanism by which the fetus was attempting to be born approached that of conduplicato corpore. Delivery was effected by a modified internal podalic version and breech extraction through the normal birth canal. The results were gratifying, a living baby and mother, both of whom made an uneventful recovery.

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Alfred I. duPont Institute

The dedication exercises of the Alfred I. duPont Institute of the Nemours Foundation was held on June 14th, 1941, at the institute on Rockland road, Wilmington with Thomas R. Brown, M. D., Baltimore, chairman of the Medical Advisory Board, presiding.

The invocation was made by the Rt. Rev. Henry St. George Tucker, D.D., presiding Bishop, Protestant Episcopal Church of the United States.

An address on the "Alfred I. duPont Institute of the Nemours Foundation" was made by Alfred R. Shands, Jr., M. D., the medical director.

An address on "Alfred I. duPont, the Man" was made by Dr. Francis P. Gaines, president of Washington and Lee University, Lexington, Virginia.

The benediction was pronounced by the Most Rev. Edmund J. FitzMaurice, D.D., Bishop of the Roman Catholic Diocese of Wilmington.

Music by an orchestra was interspersed and a carillon recital was held immediately following the ceremony by Mr. Melvin C. Corbett, Carilloneur, Darien, Connecticut, during which time tea was served. A large and representative audience of Wilmingtonians and of scientists and physicians from many cities was present.

"When Bobby Goes to School"

Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public film, "When Bobby Goes to School," may be exhibited to the public by any licensed physician in the United States.

All that is required is that he obtain the endorsement by any officer of his county medical society. Endorsement blanks for this purpose may be obtained on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

Such endorsement, however, is not required for showings by licensed physicians to medical groups for the purpose of familiarizing them with the message of the film.

"When Bobby Goes to School" is a 16-mm. sound film, free from advertising, dealing with the health appraisal of the school child, and may be borrowed without charge or obligation on application to the distributors, Mead Johnson & Company, Evansville, Indiana.

Registry of Medical Technologists

The Registry of Medical Technologists of the American Society of Clinical Pathologists has been moved from Denver, Colorado, to Muncie, Indiana. Since its organization in 1928 the Registry has been located in Denver, where its work has been carried on under the administration of its distinguished chairman, Doctor Philip Hillkowitz, and Mrs. Anna R. Scott, the registrar. The increasing burden of the office, together with a recent serious

illness, prompted the resignation of Doctor Hillkowitz as chairman of the Board of Registry. His successor is Doctor Lall G. Montgomery, the pathologist of the Ball Memorial Hospital, of Muncie, Indiana. The Registry will be situated at the hospital.

The newly appointed registrar is Miss Carlita R. Swenson, who comes from Philadelphia, where she has been associated with the United States Pharmacopoeia.

This event in the history of the Registry is a reminder that over twelve years have passed since the first handful of registrants received their certificates from the Denver office. Since then, under the skillful and friendly guidance of Doctor Hillkowitz and Mrs. Scott and their associates on the Board of Registry, the number of registered Medical Technologists has increased to the present impressive figure of 6,856. Twice a year this total is further increased by the addition of several hundred successful candidates from the spring and fall examinations held by the Board.

REQUEST TO OUR AUTHORS

Who?
What?
When?
Where?
Why?

The Committee on Publications of your Society is faced with the problem of rising costs for paper and printing. At its last meeting, it directed the Managing Editor to advise our authors of this fact and to request that our contributors reduce the wordage of their articles as far as this can be done. The Committee further directed the Managing Editor to assist in obtaining brevity by stricter editing of submitted copy.

The Editors suggest that in preparing a manuscript each author set up in the left-hand margin of the first page the five questions: Who? What? When? Where? Why? If these questions are definitely answered in the first few paragraphs of the article, in the order named, the entire subject matter will be presented to the reader in brief outline. It may then be expanded in subsequent paragraphs to the extent that the subject necessitates.

The reason for this suggestion is clear. It facilitates editing and assures the author that nothing of importance will be omitted; since, if it becomes necessary to cut the article further for any reason, the cutting can be done from the end. Try it for yourself on this editorial. If you omit this paragraph you still know Who? What? When? Why? If you omit the second and third paragraphs you still know all the essential facts. While it is recognized that in preparing scientific papers these suggestions cannot always be carried out literally, the Editors believe that practice in arranging material in this manner will be of benefit to our authors and their readers. It will certainly be of much appreciated assistance to

The Editors

Specimen

A NEW ANGLE ON TRIGEMINAL NEURALGIA

A study of 245 Cases with Observations on Seasonal Occurrence and Surgical Technic

HENRY WARD WILLIAMS, M. D., F. A. C. S.,
Rochester, New York

During the past seventeen years I have personally treated 245 cases of true tic douloureaux. These have not been previously reported, and the following statistical account and certain facts that have been observed in the course of study are here presented. The symptomatology of the disease shall not be discussed and, since the cause of trigeminal neuralgia has not as yet been established, mention of this will also be omitted.

Trigeminal neuralgia has been known to the medical profession since Fothergill's classic description in 1773. During the past fifty years efforts to treat this disease have been progressively more successful.

The principles of treatment are simple — namely, anything that interrupts the . . . .

Who?
What?
When?
Where?
Why?

Note that every one of the questions in the left-hand margin is answered in the first two paragraphs and the title. The entire article appeared in the June 1, 1941, issue.

Had an accident to the press or any other emergency destroyed the rest of the type one would still have known, in general though not in detail, who the author was, what he was writing about, where he lived, when the material was analyzed, and why it was done.

Editorial, *N. Y. State J. M.*, June 15, 1941.

EDITORIAL

DELAWARE STATE MEDICAL JOURNAL

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Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscripts, or made in sufficient time before publication.

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Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

It is suggested that wherever possible members of the State Society should patronize our advertisers in preference to others as a matter of fair reciprocity.

Subscription price: $2.00 per annum in advance. Single copies, 20 cents. Foreign countries: $2.50 per annum.

VOL. XIII JULY, 1941 No. 7

THE CLOSED-STAFF HOSPITAL

It was not very long ago—about the turn of the century—when those members of the public who required more than office care from their physicians or surgeons turned away with suspicion whenever hospital care was suggested. This attitude, doubtless, was only a later expression of the justifiable fear that existed in the "Sairy Gamp" era when hospitals were either poorhourses or institutions for the insane and those suffering from chronic alcoholism. Brought up to date, this fear expressed itself in terms of dread of "unnecessary cutting," "experimentation by students" and the like. It forced the members of the medical profession to compromise their ideals and to care for their major obstetric, medical and surgical problems in private homes, pending education of the public to the advantages of hospitalization. Thanks to the advancement in the science as well as the practice of medicine, the increased use of hospitals as teaching centers, the development of new ideas in the management and training of the house staffs in the hospitals but, most of all, to the mental acuity of the patients and their families, this education was sufficiently far advanced so that hospitalization was not only accepted but demanded by seriously ill patients at the time of the outbreak of World War I.

With this increased use it was shortly apparent to the profession that there were illegitimate as well as legitimate advantages to having a hospital to call on. Such evils as therapy — particularly surgical — without diagnosis, inadequate and incompetent medical care, the blocking rather than the facilitation of post-mortem examinations the neglect of records, with resulting medicolegal complications and injustices, and many unethical financial arrangements between unscrupulous physicians and surgeons became commonplace and were rapidly undoing all the educational good that had been accomplished with so much effort.

Some disciplinary measures were essential. Because the surgeon had the greater and more dramatic opportunity to fall by the wayside, corrective action was first taken by this branch of the profession. This led to the formation of the American College of Surgeons. Over the intervening years since its organization, this and other societies—backed by the financial support of an enlightened public—have evolved a method where by a maximum of control is exercised over those persons and tendencies in the medical profession that consciously or unconsciously threaten to bring back the evils mentioned above. This has been accomplished by keep-

ing the services rendered by both the hospitals and the visiting staffs at the standard that is acceptable to the majority of doctors. Such hospitals as meet these standards are rewarded by certification of acceptability. This is inevitably followed by an improvement in the caliber of their resident staffs, an easing of their financial burdens through willingness of patients to pay more and promptly, and an encouragement to their trustees in obtaining public support for their efforts to protect the local communities.

Furthermore, this certification leads to the requirement of the hospital that the work and medical morals of the visiting staff be kept at a high level. To accomplish this the hospitals — for their own self-protection — have created the closed-staff and courtesy-staff organization and denied to such members of the medical profession as were either unwilling or unable to conform to the minimum standards set up by the American College for Surgeons and other analogous institutions the right to practice or care for patients within their walls. Those physicians and surgeons who are allowed membership on such closed or courtesy staffs are universally favorable to the arrangement and rightly jealous of their professional and ethical standards. In the light of the present-day attitude of the public, as represented by their financial support of such hospitals, by their patronization of such staff members and by their demand for such facilities in cases of serious illness, it is apparent that this movement meets with the approval of the intelligent part of the patient population.

Physicians and surgeons who have not been granted these privileges are prone to cry favoritism, graft in high places, coercion and so forth. They either ignore or know nothing of the historical background that led to the present-day arrangement. In particular they fail to recognize that any member of the medical profession, regardless of the school from which he graduated or the societies to which he belongs, who can demonstrate to fellow members in his community, and to the trustees of the hospital that serves his community, that he is technically equipped, adequately trained, ethical and desirous of keeping constantly up to date in his profession will have no difficulty in obtaining permission to practice in his local hospital, even though it is inspected and certified as meeting the minimum requirements of the American College of Surgeons. They must not forget that such certification has the actual or implied support of the American College of Physicians, the American Hospital Association, the American Nursing Association, the American Red Cross and similar organizations. Attempts to camouflage inadequacy, incompetence or lack of ethics under the specious plea that membership in a state medical society automatically negates the considered judgments of the doctors' peers are doomed to failure and are indefensible.—Editorial, *New Eng. J. of M.*, June 5, 1941.

ECONOMIC HEADACHE

"One of the headaches of the practice of medicine has been the fact that the attending physician to an automobile accident victim has too frequently been unable to collect for his services. The same situation also has been a vital problem for hospital management. Now there *will be* some relief from an unpleasant situation." (1). Physicians and hospitals in Maine have had abundant experience in this regard hence the thought occurs; since this problem has been agreeably solved in Michigan, why not here? An agreement of like nature seems to be working very well in Wisconsin and Massachusetts, in the latter there is a separate provision for the physicians and the hospitals, but the equity and fairness of the agreement would seem to leave no reason why it cannot be adopted in Maine.

The gist of the plan and agreement is that the patient, who has been injured in an automobile accident, and it might be that those responsible for minors could do the same, and for whom an insurance company is to be responsible financially, *will sign an agreement* giving the insurance company the *right* to make separate checks covering charges for services to the hospital and physician. It is common knowledge that many cases are settled by insurance companies, the check of course being delivered direct to the injured or his or her attorney, with the result that hospitals and attending physicians come out at the little end of the proverbial horn.

The cooperation between "old line," "mu-

(1): Journal of the Michigan State Medical Society. February, 1941.

tual'' and ''independent'' insurance companies operating in Michigan and the committee from the State Medical Society has resulted in the insurance companies assisting in every way in obtaining these signatures and in the subsequent legal procedures. It must be remembered that insurance companies are not inclined to settle claims based on allegations not supported by competent medical evidence.

What really happened to a given accident victim and the probability of permanent results is information of an important nature and must be supplied by the attending physician. The old adage to strike while the iron is hot is applicable most aptly in automobile injury cases. The *Journal of the Michigan State Medical Society* comments on the fact that there should be little difficulty in obtaining this assignment from the patient while memory of the service rendered is still fresh in his mind and with such an agreement made openly the money due the physician and the hospital will not be used by the ''grateful'' patient to buy a new car or fur coat instead of paying the bills for services which saved him from pain, suffering and even death.

Of course there are insurance companies and insurance companies; attorneys and attorneys; claim adjusters and claim adjusters. It is very pleasant to state that we have in Maine some companies and their official representatives who do everything within their power to see that just compensation is made to physicians and hospitals for services rendered. There are some, however, whose methods and procedures are certainly capable of being decidedly improved. If the State Medical Association of Michigan, Massachusetts and Wisconsin, through their proper committee, was able to bring about such a ''constructive economic advance'' for their membership we in Maine can surely do no less than try to have such an agreement become operative in this state for the physicians and hospitals who have had forced on them a burden many times unfair and unjust.—Editorial, *J. Maine M. A.*, May, 191.

Directory of Medical Specialists 1942 Edition

Specialists eligible for listing in the forthcoming second edition of the Directory of Medical Specialists are urged to fill in and return promptly the questionnaires for biographic data now being mailed out by the publication office.

This Directory is the official publication of the Advisory Board for Medical Specialties, issued every two years, and listings are limited to those formally certified by any of the fifteen American Boards examining in the medical specialties. There is no charge for such listings.

The second edition is now being prepared, and will be ready for distribution early in February 1942, with biographic, geographic, and alphabetic listings of all diplomates certified to January 1, 1942. It will include approximately 18,000 names.

The Directing Editor is Paul Titus, M. D., 1015 Highland Building, Pittsburgh, Pennsylvania, and the secretaries of the fifteen American Boards constitute the Editorial Board.

More Dental Hygienists Needed

The number of dental hygienists secured as a result of an examination announced in January is not sufficient to meet the present needs of the National Defense program. Another examination has just been announced for positions as dental hygienist at $1,620 a year, less the usual 3½ per cent retirement deduction. Appointments will be made in the U. S. Public Health Service, the Veterans' Administration, and the War Department.

To qualify, applicants must be registered dental or oral hygienists who have completed a full course leading to graduation from a recognized school of oral hygiene. In addition, 2 years of experience are required in oral hygiene in public health or school work or in a private ethical dental office. Graduate dentists will be accepted for the examination provided they have had this experience in oral hygiene work.

Additional information and application forms may be obtained from any first or second class post office, or from the Civil Service Commission.

1789—MEDICAL SOCIETY OF DELAWARE—1941

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BOOK REVIEWS

American Illustrated Medical Dictionary. Edited by M. A. Newman Dorland, M. D., 19th Edition, revised and enlarged. Pp. 1,647, with 914 illustrations. Flexible and stiff binding. Price, plain, $7.00; thumb indexed, $7.50. Philadelphia; W. B. Saunders, 1941.

This old stand-by was born in 1900, and is still going strong. In fact this 19th edition is the best of the series. It contains over 2,000 new words, several hundred of which are defined for the first time. Etymology and pronunciation are featured, proper capitalization is stressed, and the definitions are short and accurate. The work also contains many charts, tables, biographies, historical data, and dosage tables. Treatments, tests, and operations are concisely presented. The 914 illustrations include 100 in colors and 269 portraits.

It is a pleasure to welcome another edition of Dorland, which has been appearing every three years of late; in days of lesser economic stress a new edition was required every two years! This new edition fully maintains the uniform excellence of its forebears, and will, we predict, enjoy as great a popularity.

Essentials of Endocrinology. By Arthur Grollman, Ph. D., M. D., Associate Professor of Pharmacology and Experimental Therapeutics, Johns Hopkins University. Pp. 480, with 74 illustrations. Cloth. Price, $6.00. Philadelphia; J. B. Lippincott Company, 1941.

The rapidly growing science of endocrinology has become of age and recognized as a fundamental science. The very speed of its development has been one of its handicaps, for speed has produced a great mass of unproven or partly proven literature which in turn has lead to considerable confusion. Grollman's book is outstanding in two respects: (1) the conciseness and clarity of the style is refreshing, yet it includes all of the really important matter; and (2) the authority of the text is based upon adequate, controlled experimentation and upon critical clinical observation. Those who seek a brief survey of the major aspects of endocrinology, as known today, will appreciate this excellent presentation.

Orbital Tumors: Results Following the Transcranial Operative Attack. By Walter E. Dandy, M. D., Adjunct Professor of Neurological Surgery. Johns Hopkins University. Pp. 224, with 100 illustrations. Cloth. Price, $5.00. New York; Oskar Piest, 1941.

As the title states, this is a report, covering 24 cases in which the transfrontal technique, devised by Dandy in 1922, was employed. It is a recital, therefore, of the diagnosis, pathology, and treatment of a group of cases formerly handled by the ophthalmologists, with an excessively high end mortality, because 75 per cent of such tumors have intracranial extensions or origins. The Dandy technique adequately exposes both orbit and cranium, and offers the patient the maximum chance for total oblation.

This monograph, by one of the ablest authorities in the country, sets a definite milestone in the pathological study and surgical removal of orbital tumors, and should be of special importance to ophthalmologists, neurosurgeons, and pathologists.

Infantile Paralysis—1941. By various authors. Pp. 239, with 21 illustrations. Cloth. Price, $1.25. New York; National Foundation for Infantile Paralysis. 1941.

This book contains the six lectures, arranged by the Foundation, which were given at Vanderbilt University in April, 1941. The authors include a bacteriologist, a pathologist, an epidemiologist, a virus expert, and an orthopedist, each an authority in his respective field. The lectures cover the disease completely, and include historical review, etiology, immunology, pathology, epidemiology, and treatment. In this latter lecture no mention is made of the Sister Elizabeth Kenny method of treatment, though recent publications indicate it may have definite or even superior possibilities.

This book is sold at less than cost in order that every physician may have a copy. Bringing an authoritative survey of the whole subject, this book should be in the hands of every practitioner.

The March of Medicine. By various authors. Pp. 168. Cloth. Price, $2.00. New York; Columbia University Press. 1941.

This volume represents the New York Academy of Medicine Lectures to the Laity, 1940, contains interpretive essays that treat of some of the most important trends in medicine: the development of care of the mentally deranged, the use of the bronchoscope, the story of the viruses, our knowledge of the

blood, and the addition of chemicals to the modern defense against disease.

Despite this diversity there is unity to the book, in that each author has devoted himself to a common task—interpreting the progress of medicine, finding the significance and correlations of a great amount of scientific and historical data, and showing how doctors have come to know what they know, still follow the dictum of Francis Bacon, seeking to wrest the secrets of nature by close study of her ways and means. As Dr. Solley has so aptly said, "It is the deviousness of the pursuit, the ingenuity and indirectness of the search, that render the story of biological research so fascinating."

The lectures are: (1) The Inheritance of Mental Disease, by Abraham Myerson, M. D.; (2) Chemical Warfare against Disease, by Perrin H. Long, M. D.; (3) The Story of Our Knowledge of the Blood, by Paul Reznikoff, M. D.; (4) The Story of Viruses, by Thomas M. Rivers, M. D.; (5) The Ascent from Bedlam, by Richard H. Hutchings, M. D.; (6) The Romance of Bronchoscopy, by Chevalier Jackson, M. D., and Chevalier L. Jackson, M. D.

X-ray Therapy of Chronic Arthritis. By Karl Goldhamer, M. D., Associate Roentgenologist, Quincy Hospital. Pp. 131. Cloth. Price $2.00. Quincy, Illinois: Radiologic Review Publishing Company. 1941.

Anders, Daland and Pfahler, as far back as 1906 reported favorably on x-ray treatment of chronic arthritis. In view of the frequent failures with other methods of treatment, it is amazing that x-ray treatment has not become more popular. We think this is due to the fact that the profession, generally, is not aware that this method yields 60 per cent of satisfactory results. Goldhamer's book covers this field completely—pathology, diagnosis, technique, indications, contra-indications, and results; it merits a very wide field of readers.